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11

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Abstracts

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PF56 Plant species from the Peruvian Amazon rainforest (Peru) and their antimicrobial activity

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The plant species reported here are traditionally used by Indigenous and Mestizo populations from the Iquitenian surroundings (Peruvian Amazon) for microbial infections. Inhabitants of various ethnic origins were interviewed and selected plants extracts were evaluated for their antimicrobial properties against 36 sensitive and multi-resistant bacteria or fungi. Of the 39 plants analyzed (50 methanolic extracts), 9 species showed MIC ≤0.3 mg/ml for one or several microorganisms and only 6 extracts were inactive. This study supports the traditional use of these plants. It may help to discover new chemical classes of antibiotics that could serve as selective agents against multi-resistant bacteria.

PF57 *Cistus ladanifer* as a source of phenolic compounds with antifungal activity

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A screening of the antifungal potential of phenolic extract of *Cistus ladanifer* from Northeast Portugal, against *Candida* species was performed. The extract was characterized by HPLC-DAD-ESI/MS. Phenolic acids and derivatives, ellagic acid derivatives and flavonoids, such as catechins, flavonols and flavones, were found in the sample. The most abundant group was ellagic acid derivatives in which punicalagin gallate, a derivative of punicalagin attached to gallic acid, was found in highest amount. These compounds could be related to the strong inhibition of *C. albicans*, *C. glabrata* and *C. parapsilosis* growth. Moreover, the best antifungal activity was against *C. glabrata*, where the studied extract was able to cause at least 3 Log of reduction at concentrations below 50 µg/mL and a total growth inhibition at concentrations above 625 µg/mL.

PF58 Effects of Ocimum sanctum Linn (OS) leaf extract on stress, memory and attention in healthy humans

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Anti-stress effects and memory enhancing effects of OS have been documented in animal models nut no human studies available. Double blinded RCT on healthy human adults.300 mg capsules of ethanolic leaf extract of OS or placebo were administered to 30 volunteers for 30 days. Recordings were taken on day 0,15 and 30. Parameters assessed: a) STAI questionnaire b) Sternberg memory task c) Stroop task d) Heart rate (HR) & e) GSR. **Results:** showed significant improvement in reaction time p = 0.043 in Sternberg task, and improved % of correct responses in facilitation task of Stroop (p = 0.01). STAI, HR, GSR and P300 latency showed no significant change.P300 amplitude showed a significant increase (p = 0.02).All changes were significant only at day 30. OS possesses memory enhancing effects at dose of 300 mg/day od by 30 days. There is also significant improvement in attention as assessed by P300 amplitude. However no significant reductions in Stress parameters were seen at this dose/duration of OS. Further trials have to been conducted in more subjects and for longer duration for the effects to be validated

PF59 Phytochemical investigation of *Rauvolfia nukuhivensis*, a Marquesan traditional medicinal plant

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Rauvolfia nukuhivensis (Apocynaceae) is an endemic species of the Marquesas archipelago where it is used as a traditional gynecological antiseptic. Over-exploited because of the frequent use of the bark (macerate), the plant is now classsified as an endangered species ("Critical Rare" UICN status). Data regarding pharmacological principles and their chemical identity were not available until now. The phytochemical investigation of the main constituents of this popular medicinal plant resulted in the isolation and identification of several alkaloids belonging to the sandwicine and ajmaline type, among them also formerly unknown derivatives. In order to test the efficacy against human pathogens (*Staphylococcus aureus*, *Escherichia coli* and *Candida albicans*) bioassays were carried out, showing moderate antifungal activities of some compounds.

PF60 Analysis of leaf epidermal characters of medicinal and poisonous Brazilian menispermaceae

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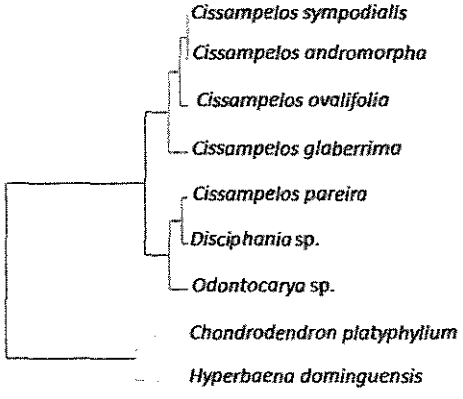
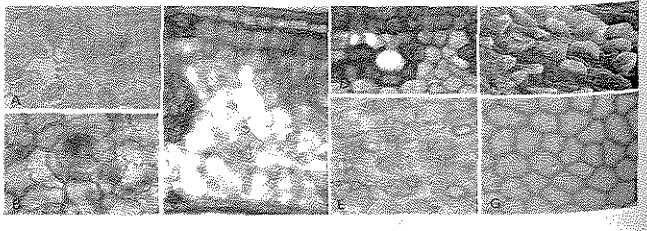
We carried out a multivariate analysis of leaf anatomy of five genera and nine species of Menispermaceae known to be toxic or used as medicinal in Brazil. The dendrogram obtained by Ward's method showed two groups (A and B), with cophenetic correlation coefficient of 0.9178. The group A with six species and two subgroups: the subgroup A1 brought together four species of *Cissampelos* with anomocytic stomata (Fig 1A), without inclusions of calcium oxalate (Fig.1E) and sclereids; the subgroup A2 with *Cissampelos pareira*, *Odontocarya* and *Disciphania*. The group B consists of *Chondrodendron platyphyllum* with anticlinal walls cells straight (Fig 1G) and *Hyperbaena dominguensis* with cyclocytic stomata (Fig.1B), braciform cells in the spongy parenchyma (Fig 1C), and secretory canals (Fig 1D). *Cissampelos sympodialis* and *Chondrodendron platyphyllum* were the species with lower similarity in the dendrogram. Financial support: CNPq.





A. anomocytic stomata; B. cyclocytic stomata; C. braciform cells in the spongy parenchyma; D. secretory canals; E: inclusions of calcium oxalate; F. Papillae; G. Anticlinal walls cells straight.